Owners Manual Honda F400 Cultivator / Tiller

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F400 F400

OWNER'S MANUAL

C HONDA MOTOR CO., LTD. 1976

IMPORTANT NOTICE -

This tiller is not equipped with a spark arrestor. Operation on forest covered, brush covered, or grass covered land may not be legal in some states. Check local laws and regulations before operation. Read and understand this manual before attempting to operate the F400 tiller.

Correct handling and proper servicing will maintain the tiller in top operating condition for a long and useful life. This tiller is designed for rugged service; however, if problems should arise, consult your selling dealer who will provide you with prompt service.

NOTE: Photos contained herein are based mainly on F400 A2. (with reverse gear).

In this manual statements preceded by the following words are of special significance: "WARNING" means that there is the possibility of personal injury to yourself and others. "CAUTION" means that there is the possibility of damage to the machine.

"NOTE" indicates points of particular interest for more efficient and convenient operation. We recommend that you take particular notice of these items when reading this manual.

ALL INFORMATION, ILLUSTRATIONS, DIRECTIONS AND SPECIFICATIONS INCLUDED IN THIS PUBLICATION ARE BASED ON THE LATEST PRODUCT INFORMATION AVAILABLE AT THE TIME OF APPROVAL FOR PRINTING. HONDA MOTOR CO., LTD. RESERVES THE RIGHT TO MAKE CHANGES AT ANY TIME WITHOUT NOTICE AND WITHOUT INCURRING ANY OBLI-GATION WHATEVER.

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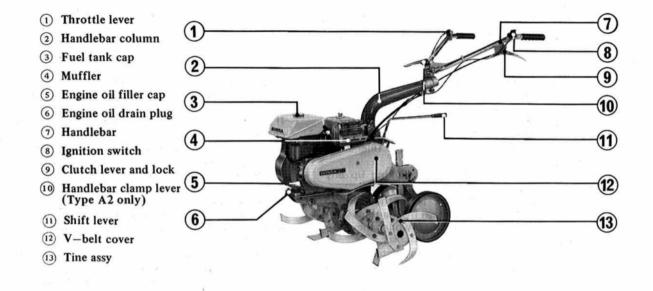
WARNING:

The Honda F400 tiller is designed to give reasonably safe and effective service if operated according to these instructions. READ AND UNDERSTAND THE OWNER'S MANUAL before attempting to operate the tiller. Failure to do so could result in personal injury or damage to the tiller.

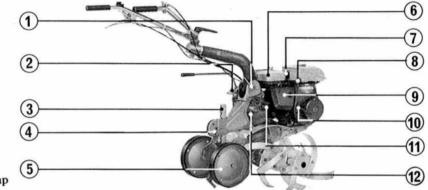
- Never permit anyone to operate the tiller without proper instruction.
- Know how to stop the tiller quickly and understand the operation of all the controls – READ YOUR OWNER'S MANUAL.
- Keep children and pets away from the tiller when in operation.
- Clear the area to be tilled by picking up any stones, wire, glass, large sticks, metal, etc.
- Always stay a safe distance from the tines to prevent injury by objects thrown by the tiller.
- Never stand in front of tines while they are turning.
- Always stop the engine (ignition switch at Off) before cleaning the tines, servicing, or making adjustments.
- Keep hands and feet away from rotating parts while the engine is running.
- Never operate the tiller without the belt cover in place.

- To prevent personal injury, do not touch the muffler while the engine is running or soon after stopping.
- If hidden object is struck, turn off engine and check for damage to tiller.
- Do not allow debris to build up around engine or other operating parts.
- To prevent fuel spill, do not incline the tiller excessively.
- Before starting the engine, check and verify that the clutch is disengaged and that the shift lever is in the neutral position to prevent any sudden uncontrolled movement.
- Follow the recommended maintenance suggestions in this manual.
- · Make sure that all fasteners are properly secured.
- Wear suitable clothing and substantial shoes while using the tiller.

COMPONENT IDENTIFICATION



- (1) Handlebar column locking lever
- 2 Gear indicator
- ③ Drag bar
- ④ Hitch box
- **5** Wheel assy
- 6 Air cleaner
- (7) Spark plug cap
- (8) Fuel valve
- (9) Carburetor cover
- 10 Recoil starter
- (1) P.T.O. shaft cover
- (12) Transmission oil filler cap

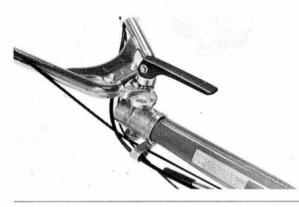


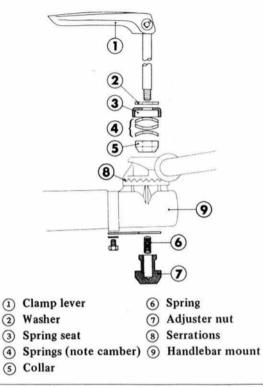


ASSEMBLY INSTRUCTIONS -

HANDLEBAR CLAMP LEVER ASSEMBLY (For type A2)

- 1. Place washer, spring seat, springs, and collar on the clamp lever shaft as shown.
- 2. Insert the shaft through the handlebar and the handlebar mount on the handlebar column.
- 3. Check that the serrations are aligned.
- 4. Tighten the clamp lever adjuster nut to hold the handlebar securely.



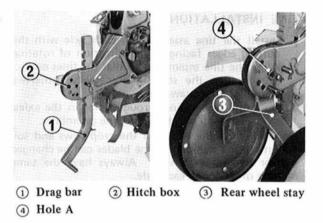


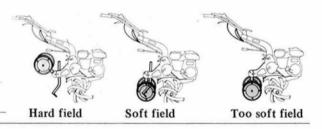
INSTALLATION OF DRAG BAR AND REAR WHEEL

- After inserting the drag bar into the slot of the hitch box and adjusting its height, fix the drag bar by the use of a wheel pin and snap pin. The drag bar height can be adjusted to eight positions to suit the field conditions.
- 2. Insert the rear wheel stay into the slot of the hitch box, line up the hole A (fulcrum) and the external hole on the rear wheel stay and fasten it with a wheel pin and snap pin.

Then, depending upon the soil conditions (see Notes below), adjust the rear wheel height to stabilize the tiller by selecting the most appropriate adjusting height hole and install a wheel pin and snap pin.

- NOTES: When tilling hard field or soil with gravel, use the drag bar only while the rear wheels are lifted.
 - To till a soft field, work with the drag bar and the rear wheels both installed.
 - If the surface of the field is too soft, use the rear wheels without the drag bar.

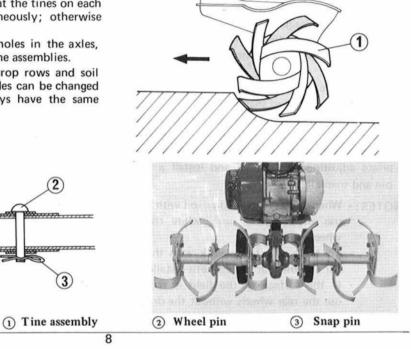




TINE INSTALLATION

- 1. Install the tine assembly on each axle with the cutting edges facing in the direction of rotation.
- 2. Align the tine assemblies so that the tines on each side contact the soil simultaneously; otherwise the tiller may yaw.
- 3. Insert the wheel pins through holes in the axles, and install snap pins to secure tine assemblies.

Depending on the width of the crop rows and soil condition, the number of tine blades can be changed one or two on each side. Always have the same number of blades on each side.



PRE-OPERATION SERVICING

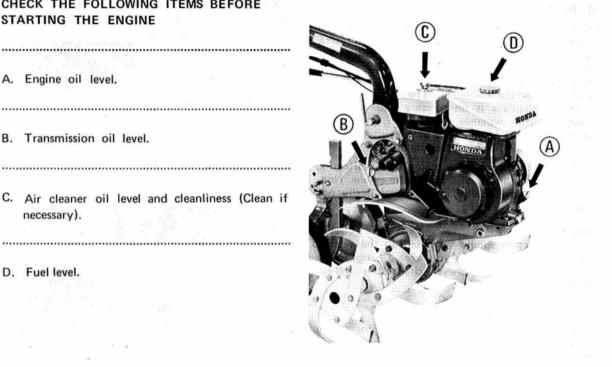
CHECK THE FOLLOWING ITEMS BEFORE STARTING THE ENGINE

A. Engine oil level.

B. Transmission oil level.

C. Air cleaner oil level and cleanliness (Clean if necessary).

D. Fuel level.



OIL RECOMMENDATION

Use only high detergent, premium quality motor oil certified to meet or exceed US automobile manufacturer's requirements for Service Classification SE, in the engine, transmission, and air cleaner.

Motor oils intended for Service SE will show this designation on the container. The regular use of special oil additives is unnecessary and will only increase operating expenses.

Engine oil should be changed at the intervals prescribed in the Maintenance Schedule on page 24.

CAUTION: Engine oil is a major factor affecting the performance and service life of the engine. Nondetergent and low quality oils are specifically not recommended.

Viscosity:

Viscosity selection should be based on the average atmospheric temperature in your area. Change to the proper viscosity oil whenever changes in average atmospheric temperature occur.

 Recommended oil viscosity: General, all temperatures, SAE 10W-40

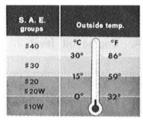
Oil will deteriorate if left in an engine for a long period of time. The engine oil should be changed if the tiller has been stored for several months.

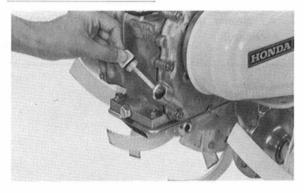
ENGINE OIL LEVEL

When filling or checking the oil level, be sure that the engine is level.

Remove the oil filler cap and fill with a proper grade of oil up to the oil level gauge 0.60 liter (0.63qt.)

CAUTION: Overfilling will result in power loss and smoking. Insufficient oil will cause overheating and subsequent wear.





TRANSMISSION OIL LEVEL

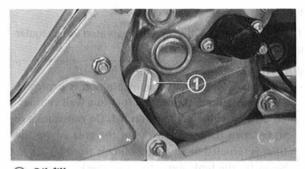
When filling or checking the oil level, place the tiller in a level position.

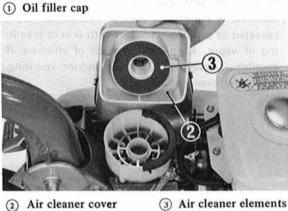
Remove the oil filler cap and fill with the recommended oil to the required level (1.2qt).

AIR CLEANER OIL LEVEL

Place the tiller in a level position. Remove the air cleaner cover and fill the air cleaner case with the recommended oil to the level shown. The air cleaner oil should be changed frequently and the air cleaner elements washed if the tiller is operated on dusty conditions.







FUEL

The Honda F400 Tiller may be operated with regular leaded automobile gasoline.

WARNING:

- Gasoline is extremely flammable and is explosive under certain conditions. Refuel in a well ventilated area with the engine stopped. Do not smoke or allow open flames or sparks in the area where the tiller is refueled or where gasoline is stored.
- · Never fill the tank above the level mark.
- Gasoline is harmful or fatal if swallowed. Avoid repeated or prolonged contact with skin or breathing of vapor. Keep out of reach of children. If gasoline is swallowed, do not induce vomiting. Call a physician immediately.





1 level mark

STARTING THE ENGINE

WARNING: Exhaust contains poisonous carbon monoxide gas. Avoid inhalation of exhaust gases. Never run the engine in a green house or confined area.

1. Turn the fuel valve to the ON position.

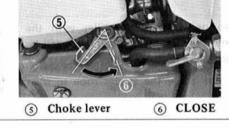


1) Fuel valve 2) ON



2. Turn the ignition switch to the RUN position.





3. Move the choke lever to the CLOSE position.

4. Move the throttle lever about 30 degrees from the extreme right.

5. Grasp and raise the clutch lever to disengage the clutch lever lock, and release the clutch lever to disengage the transmission from the engine.

6. Pull the starter rope handle rapidly to start the engine.

WARNING: Do not operate the tiller with the recoil starter removed, because moving parts will be exposed and could cause personal injury.

CAUTION: Do not allow the starter rope to snap back.

- ① Throttle lever
 - 2

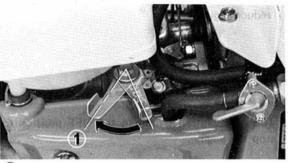
(1)

2 Clutch lever



3 Starter

7. Move the choke lever to the OPEN position and warm up the engine for one to two minutes.



① OPEN

8. Move the throttle lever to the left to increase the engine speed.



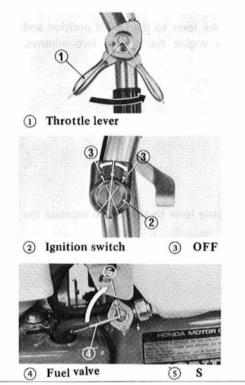
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STOPPING THE ENGINE

1. Move the throttle lever to the extreme right to reduce engine speed.

2. Turn the ignition switch to the OFF position to stop the engine.

3. Turn the fuel valve to the S position.



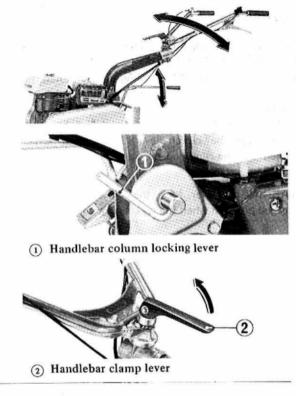
OPERATING INSTRUCTIONS

HANDLEBAR HEIGHT ADJUSTMENT

The handlebar height can be changed by means of the handlebar column locking lever. Loosen the locking lever and move column to desired height, then tighten the lever securely. Check that the serrations on the column are properly engaged. Improper engagement of the serrations will allow slippage which causes excessive wear. Check periodically the tightness of the lever during use.

HANDLEBAR ANGLE ADJUSTMENT(For type A2)

The handlebar angle can be adjusted by raising the handlebar clamp lever and positioning the handle as desired then returning the clamp lever into its original position.



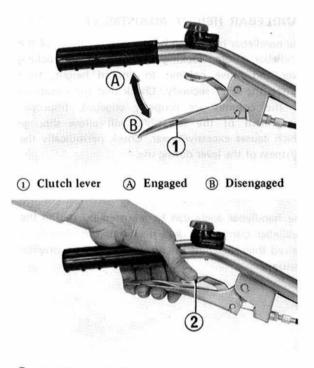
CLUTCHES

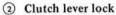
The clutch is engaged by pulling up the clutch lever. Release the clutch lever to disengage the transmission.

The clutch is engaged by pulling up the clutch lever. Release the clutch lever to disengage the transmission.

If the clutch lever lock is pressed and held while pulling up the clutch lever, the clutch lever is locked in the engaged position.

WARNING: Never lock the clutch lever in the engaged position when the reverse gear is engaged.





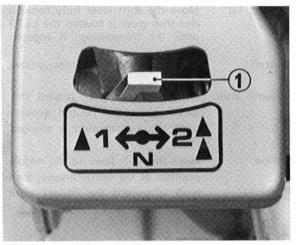
GEAR SELECTION (TYPE : A1)

The transmission can be shifted into two forward speeds. The shift lever should be operated in accordance with the gear shifting indicator.

- Forward 1st : Push the shift lever towards the LEFT until the transmission is engaged.
- Neutral : The middle position.

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Forward 2nd : Push the shift lever towards the RIGHT until the transmission is engaged.

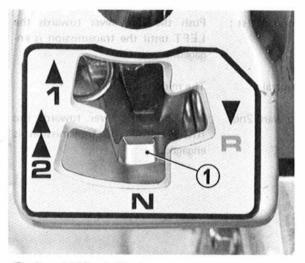


(i) Gear shifting indicator

GEAR SELECTION (TYPE : A2)

The transmission can be shifted into two forward speeds and one reverse speed. The shift lever should be operated in accordance with the gear shifting indicator.

- Forward 1st: Move the shift lever fully forward and then push it toward the LEFT until the transmission is engaged.
- Neutral: Right side of the center groove.
- Forward 2nd: Push the shift lever toward the LEFT from the neutral position until the transmission is engaged.
- Reverse: Move the shift lever to the middle position of the center groove, then push it toward the RIGHT until the transmission is engaged.



(1) Gear shifting indicator

SHIFT LEVER OPERATION

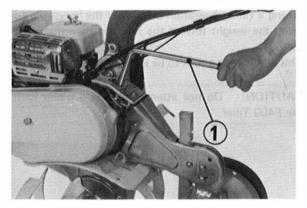
- 1. Move the throttle lever to the idle position.
- 2. Release the clutch lever to disengage the transmission.
- 3. Push the shift lever to the required position.

NOTE:

 If the shift lever will not engage the desired gear, engage the clutch and move the tiller slightly to reposition the gears.

CAUTION:

 Before shifting, return the throttle lever to the idle position and disengage the clutch. Then move the shift lever to engage the gears. Do not use excessive force on the shift lever while attempting to engage the gears.



1 Shift lever

HANDLING TIPS

Adjust the handlebar height to a comfortable position (waist high for normal tilling).

Should the machine jerk forward while tilling, press down on the handlebar.

If the machine will not move forward, move the handlebar from side to side.

Turn: The proper method of negotiating a turn during a tilling operation is to lower the handlebar to bring the weight toward the rear and then make the turn.

This will permit a turn to be made with relative ease.

CAUTION: Do not attempt to tow a trailer with the F400 Tiller.



POWER TAKE OFF (P.T.O.) SHAFT

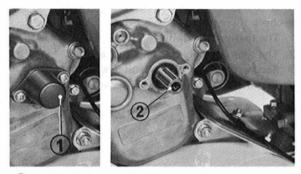
The transmission has a P.T.O. to which the P.T.O. pulley is attached. To install the pulley, loosen two screws to remove the cap.

WARNING:

- Place the gear shift lever in the "N" position and make certain the machine is nearly horizontal when performing stationary work.
- Be sure to install cap and tighten the screws when the P.T.O. is not used as the rotating shaft could cause personal injury.

NOTE:

The optional P.T.O. pulley is not available in the USA.



1 P.T.O. shaft cap (2) P.T.O. shaft

TRANSPORTATION

When transporting the F400A1 or F400A2, be sure to check these items.

- 1. The fuel valve is shut off.
- 2. The tiller is inclined to leak fuel and oil.
- 3. Secure the tiller with a suitable wire or rope, so that the tiller can not fall or move.



MAINTENANCE

WARNING:

- To maintain the safety and reliability of your HONDA tiller do not modify the tiller. Use only genuine HONDA parts or their equivalent for service or repairing. The use of other replacement parts which are not of equivalent quality may impair the operation of your tiller.
- To prevent personal injury, always stop the engine prior to performing any maintenance.

MAINTENANCE GUIDE

Periodic inspection and adjustment of the Honda Tiller is essential if a high level of performance is to be maintained. Regular maintenance will also insure the longest possible life of your Honda Tiller.

Provided here is a maintenance chart describing proper intervals and types of maintenance to be performed.

Period	20	Every 50 Hours	100	300
Change engine oil	0		0	
Change transmission oil	0			0
*Clean air cleaner and change air cleaner oil		0		
Clean and check spark plug			0	
Check points and adjust ignition timing				•
Adjust drive belt			0	
Adjust carburetor		•		
Grease recoil starter shaft			•	
Clean fuel filter				•
Clean fuel strainer cup			0	
Adj. clutch cable				0
Adj. throttle cable				0
Adj. valve clearance				•
Tighten nuts & bolts			0	

Performed by owner

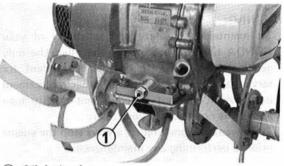
Performed by dealer

 Should be performed more frequently if used under unusually dusty conditions.

ENGINE OIL CHANGE

· DRAINING ENGINE OIL

When changing the engine oil, remove the oil drain plug to drain the oil. To ensure complete draining, be sure the engine is level and the oil is warm.



1 Oil drain plug

· OIL LEVEL

After the oil is drained completely, reinstall and tighten the drain plug securely. With the engine in a level position, remove the oil filler cap and fill the crankcase with the recommended oil up to the maximum oil level indicated. Reinstall and tighten the oil filler cap.

Oil capacity: 0.60 liter (0.63qt.)



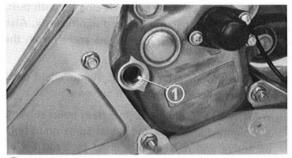
CHANGING AND CHECKING THE TRANSMISSION OIL

· DRAINING TRANSMISSION OIL-

Remove transmission oil filler cap, remove the drain plug, and drain the oil. The tiller should be level and the oil warm.

· FILLING TRANSMISSION WITH OIL

Reinstall the drain plug and tighten securely. Fill the transmission with the recommended oil up to the top of the oil filler hole 1.14 liter (1.2at.). Reinstall and tighten the oil filler cap securely.



1 Oil filler hole



2 Drain plug

CLEANING THE AIR CLEANER AND CHANGING THE AIR CLEANER OIL

If the air cleaner element becomes clogged with dust, the output of the engine is reduced significantly. Also dust may begin to enter the engine and shorten the engine life.

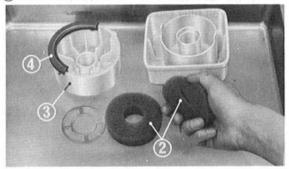
1. Remove the air cleaner cover. Remove and clean the air cleaner elements with solvent.

WARNING: Gasoline or low flash point solvents are highly flammable and under some conditions explosive and must not be used to clean the air cleaner element.

- 2. Saturate element with oil, then squeeze out any excess oil.
- Empty the oil from the air cleaner case and wash out any accumulated dirt with solvent. Dry the air cleaner case.
- 4. Fill the case to the oil level shown on page 11.
- 5. Reassemble the air cleaner and reinstall.
- 6. Reinstall the air cleaner cover.



(1) Air cleaner cover



- (2) Air cleaner elements (3) Air cleaner case
- (4) Rubber seal

CLEANING THE FUEL STRAINER

Water and sediment in the fuel strainer may result in rough engine operation.

- 1. Turn the fuel valve to the S position, and remove the carburetor cover. Loosen the ring nut to remove the fuel strainer cup.
- 2. Wash the strainer cup in cleaning solvent.
- 3. After cleaning, reinstall the strainer cup, and retighten the ring nut securely.

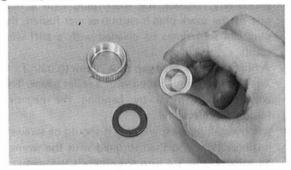
WARNING: Gasoline is flammable and explosive under certain conditions. Do not smoke or allow open flames near the equipment when servicing.



- ① Fuel valve
- ③ Ring nut



(2) Carburetor cover(4) Fuel strainer cup



SPARK PLUG REPLACEMENT AND ADJUSTMENT

The NGK BR-6HS spark plug is standard for this model.

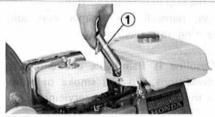
Spark plug cleaning and adjustment is done in the following manner.

- 1. Detach the spark plug lead and remove the spark plug with the spark plug wrench provided in the tool kit.
- 2. Inspect the electrodes and center porcelain of the spark plug for deposits, eroded electrodes, or carbon fouling. If the spark plug deposits are heavy, or the electrodes appear to be eroded excessively, replace the spark plug with a new one. If the spark plug is carbon or wet fouled, the plug can sometimes be cleaned with a stiff wire brush.
- Adjust the spark plug gap to 0.76mm (0.03in.). The gap can be measured with a feeler gauge. The adjustment is made by bending the negative (grounded) electrode.
- 4. When installing the spark plug it should be screwed in finger tight and then torqued with the wrench a further 1/2 to 3/4 turn to compress the washer.

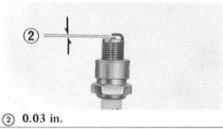
CAUTION:

The spark plug must be securely tightened. An improperly tightened plug can become very hot and possibly cause damage to the engine.

- Never use a spark plug with an improper heat range.
- Do not attempt to dry or remove soot from the spark plug by burning the tip.



1 Spark plug wrench



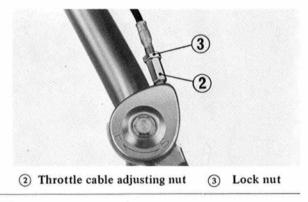
THROTTLE CABLE ADJUSTMENT

Loosen the lock nut and adjust the throttle cable adjusting nut until the free play in the throttle lever is between 1/4 to 3/8 in. as shown.

After adjusting the free play, tighten the lock nut securely.



1 Free play

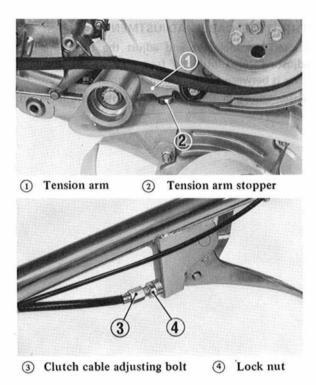


CLUTCH CABLE ADJUSTMENT

Loosen the lock nut and adjust the clutch cable adjusting bolt so that the tension arm is in contact with the tension arm stopper when the clutch lever is released to disengage the transmission.

After adjustment, tighten the lock nut securely, and replace the V-belt cover.

Start the engine to check for proper clutch lever operation.



V-BELT ADJUSTMENT

The V-belt must have the proper tension to insure that top efficiency is maintained.

Be sure to adjust the tension when replacing the $V\mathchar`-belt.$

1. When the clutch lever is pulled up to engage the transmission, adjust the engine setting so that the distance (A) is 65.1 to 69.9 mm (2-9/16 to 2-3/4 inches).

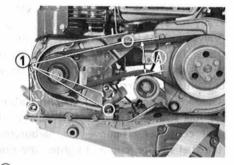
To adjust, loosen the five bolts and slide the engine in or out.

After adjusting, be sure to tighten the five bolts securely.

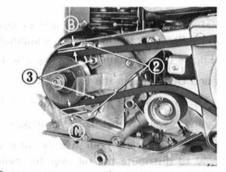
2. Check if the clearance (B) is 3.18 mm (1/8 inch) and the clearance (C) is 4.76 mm (3/16 inch).

To adjust, loosen the belt stopper tightening bolts and slide the stoppers as required.

After adjustment, tighten the bolts securely, and replace the V-belt cover.



1 Five bolts



2 V-belt stoppers 3 Tightening bolts

PREPARATION FOR STORAGE

To prepare the tiller for extended storage (over 30 days), the following steps should be taken to ensure that the tiller will be ready for use when required.

· Close the Valves and the Contact Breaker Points.

Pull the starter handle until it becomes hard to pull (the piston is coming up on the compression stroke). In this position, both valves and contact breaker points will be closed. This will protect the valve seats and the contact points from corrosion.

• Drain the Gasoline From the Fuel Tank and Carburetor.

Remove the fuel strainer cup, turn fuel valve to the ON position and drain all gasoline from the fuel tank into a metal container. Remove the carburetor drain screw to drain gasoline from carburetor also. Reinstall the fuel strainer cup and tighten the ring nut and the carburetor drain screw securely. Turn the fuel valve to the S position.

WARNING: Gasoline is flammable and explosive under certain conditions. Do not smoke or allow open flames or sparks near the equipment while draining fuel.

- · Drain the Engine Oil and Refill the Engine with Fresh Oil.
- · Clean Dirt and Debris From the Engine and Tiller.
- · Coat Areas Of Possible Rust With A Light Film Of Oil.
- · Coat the Cylinder Walls With Oil. (If Anticipated Storage Will Exceed 1 Year.)

Remove the spark plug and pour two or three tablespoons of clean oil into the cylinder. Pull the starter handle slowly to distribute the oil over the cylinder walls. Leave the piston on compression to close the valves and points. Reinstall the spark plug.

Cover the Tiller and Store On A Level Surface In A Dry, Dust-free Area.

REMOVAL FROM STORAGE

After removing the tiller from storage, do the following:

- Remove Spark Plug and Pull Starter Handle Several Times.
- · Check That Spark Plug Is Clean and Properly Gapped, Reinstall Plug and Tighten.
- · Check Oil Level In Engine, Transmission, and Air Cleaner.
- Fill Fuel Tank.

WARNING: Gasoline is flammable and explosive under certain conditions. Do not smoke or allow open flames or sparks near the equipment while filling tank. Fill the fuel tank only in a well ventilated area.

- · Turn Fuel Valve To ON and Note That Fuel Strainer Cup Fills With Fuel.
- Check Operation and Condition Of All Controls. (If any parts are required, use only genuine Honda parts or their equivalent.)
- Start Engine and Check Operation. (Note: If oil was used in the cylinder for storage, initial engine operation will produce excessive smoke. This will clear up.)

SPECIFICATIONS

Engine type	Side valve, single-cylinder, forced air-cooled four-stroke gasoline engine.
Displacement	144 cc (8.79 cu. in.)
Maximum output	3.5 HP/4,000 rpm (S.A.E.)
Maximum torque	66.0 Kg-cm (4.77 ft-lbs)/3,000 rpm
Air cleaner	Oil bath type
Gasoline tank capacity	2.0 liter (0.53 U.S. gal.)
Starter	Recoil
Clutches	Manual V-belt
P.T.O. shaft	Clockwise rotation
Transmission	Type A1: Two speeds forward
	Type A2: Two speeds forward and one speed reverse
Dimensions (LxWxH)	54.7 X 23.2 X 35.4 in.
Dry weight	Type A1: 54.9 Kg (121 lbs)
	Type A2: 55.8 Kg (123 lbs)
Spark plug type	BR-6HS (NGK) or B-6HS (NGK)
Spark plug gap	0.76 mm (0.03 in.)
Engine oil capacity	0.60 liter (0.63 qt.)
Transmission oil capacity	1.14 liter (1.2 qt.)

Current customer service contact information:

United States, Puerto Rico, and U.S. Virgin Islands:

Honda Power Equipment dealership personnel are trained professionals. They should be able to answer any question you may have. If you encounter a problem that your dealer does not solve to your satisfaction, please discuss it with the dealership's management. The Service Manager or General Manager can help. Almost all problems are solved in this way.

If you are dissatisfied with the decision made by the dealership's management, contact the Honda Power Equipment Customer Relations Office. You can write:

American Honda Motor Co., Inc. Power Equipment Division Customer Relations Office 4900 Marconi Drive Alpharetta, GA 30005-8847

Or telephone: (770) 497-6400 M-F, 8:30 am - 5:00 pm EST

When you write or call, please provide the following information:

- Model and serial numbers
- Name of the dealer who sold the Honda power equipment to you
- Name and address of the dealer who services your equipment
- Date of purchase
- Your name, address, and telephone number
- A detailed description of the problem



